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| Image result for circle center | 1. Label the center of the circle to the left point *A*.
2. Plot two points anywhere on the circle and label them *B* and *C*.
3. Use a ruler to draw $∠BAC$. What type of angle is $∠BAC$?Use a protractor to measure $∠BAC$.$∠BAC=$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Plot another point anywhere on the circle, as long as it is not between *B* and *C*. Label this point *D*.
5. Use a ruler to draw $∠BDC$. What type of angle is $∠BDC$? Use a protractor to measure $∠BDC$.$∠BDC=$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 |

What do you notice about the two angles?

Check with the other students in your group. Together, make a conjecture about the two angles.

1. Now plot a point on the circle that is between *B* and *C*. Label this point *E*.
2. Measure each angle below

$∠BDC=$ \_\_\_\_\_\_\_\_\_\_\_\_ $∠BEC=$ \_\_\_\_\_\_\_\_\_\_\_\_ $∠DBE=$ \_\_\_\_\_\_\_\_\_\_\_\_ $∠DCE=$ \_\_\_\_\_\_\_\_\_\_\_\_

What do you notice about these four angles?

Check with the other students in your group. Together, make a conjecture about the two angles.

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| Theorems1. A central angle is always equal to its intercepted arc.
2. An inscribed angle is always half its intercepted arc.
3. The opposite angles of an inscribed quadrilateral are supplementary (add up to $180°$).
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Use theorem number 2 above to explain why theorem number 3 works.









